

t11_groeb_3 (TMY-
WyrEoAq8s8evV6Z7GST9KW91bazM7ZdY)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $v6_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k14_pre_poly : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v4_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
 & ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))) \Rightarrow (\\
 & \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k15_pre_poly X0) \\
 & (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k15_pre_poly X0) (u1_struct_0 X1)))))) \Rightarrow (r2_funct_2 (k15_pre_poly \\
 & X0) (u1_struct_0 X1) (k6_polynom1 X0 X1 X2 (k7_polynom1 X0 X1)) X2))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& \quad v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v7_struct_0\ X2) \wedge \\
& \quad (l2_struct_0\ X2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2 \\
& \quad X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly \\
& \quad \quad X0)\ X2) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad \quad X0)\ (u1_struct_0\ X2))))))) \Rightarrow (k4_termord\ X0\ X1\ X2\ (k5_termord\ X0 \\
& \quad \quad \quad X1\ X2\ X3) = k4_termord\ X0\ X1\ X2\ X3)))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& \quad v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\
& \quad (l2_struct_0\ X2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2 \\
& \quad X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly \\
& \quad \quad X0)\ X2) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad \quad X0)\ (u1_struct_0\ X2))))))) \Rightarrow ((k4_termord\ X0\ X1\ X2\ X3 = k4_struct_0 \\
& \quad \quad \quad X2) \Leftrightarrow (r8_pboole\ (k15_pre_poly\ X0)\ X3\ (k7_polynom1\ X0\ X2))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0) \wedge (((v1_relat_1 \\
& \quad X1) \wedge ((v4_relat_1\ X1\ X0) \wedge ((v1_funct_1\ X1) \wedge (v1_partfun1\ X1\ X0)))) \wedge \\
& \quad ((v1_relat_1\ X2) \wedge ((v4_relat_1\ X2\ X0) \wedge ((v1_funct_1\ X2) \wedge (v1_partfun1 \\
& \quad \quad X2\ X0)))))) \Rightarrow ((r8_pboole\ X0\ X1\ X2) \Leftrightarrow (X1 = X2))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1\ X2) \wedge \\
& \quad ((v1_funct_2\ X2\ X0\ X1) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\
& \quad \quad X0\ X1)))))) \wedge ((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ X0\ X1) \wedge (m1_subset_1 \\
& \quad \quad X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))) \Rightarrow ((r2_funct_2\ X0\ X1\ X2 \\
& \quad \quad \quad X3) \Leftrightarrow (X2 = X3))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.k15_pre_poly\ X0 = k14_pre_poly\ X0 \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_xboole_0 \\
\quad (u1_struct_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k14_pre_poly X0) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (l2_struct_0 X1)) \Rightarrow \\ & ((v1_funct_1 (k7_polynom1 X0 X1)) \wedge ((v1_funct_2 (k7_polynom1 \\ & X0 X1) (k15_pre_poly X0) (u1_struct_0 X1)) \wedge (v4_polynom7 (k7_polynom1 \\ & X0 X1) X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (l2_struct_0 X1)) \Rightarrow \\ & ((v1_funct_1 (k7_polynom1 X0 X1)) \wedge ((v1_funct_2 (k7_polynom1 \\ & X0 X1) (k15_pre_poly X0) (u1_struct_0 X1)) \wedge (m1_subset_1 (k7_polynom1 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 \\ & X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\ & X1) \wedge ((v13_algstr_0 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ & (l2_algstr_0 X1)))))) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k15_pre_poly \\ & X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k15_pre_poly X0) (u1_struct_0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((\\ & v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X1)) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 X1)))))) \Rightarrow \\ & ((v1_funct_1 (k6_polynom1 X0 X1 X2 X3)) \wedge ((v1_funct_2 (k6_polynom1 \\ & X0 X1 X2 X3) (k15_pre_poly X0) (u1_struct_0 X1)) \wedge (m1_subset_1 (\\ & k6_polynom1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\ & X0) (u1_struct_0 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v3_ordinal1\ X0)\wedge \\
& (((v1_partfun1\ X1\ (k15_pre_poly\ X0))\wedge((v1_relat_2\ X1)\wedge((v4_relat_2 \\
& X1)\wedge((v6_relat_2\ X1)\wedge((v8_relat_2\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (k15_pre_poly\ X0))))))))\wedge((\\
& (\neg v2_struct_0\ X2)\wedge(l2_struct_0\ X2))\wedge((v1_funct_1\ X3)\wedge((v1_funct_2 \\
& X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2))\wedge((v1_polynom1\ X3\ (k15_pre_poly \\
& X0)\ X2)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& X0)\ (u1_struct_0\ X2))))))))\Rightarrow((v1_funct_1\ (k5_termord\ X0\ X1 \\
& X2\ X3))\wedge((v1_funct_2\ (k5_termord\ X0\ X1\ X2\ X3)\ (k15_pre_poly\ X0) \\
& (u1_struct_0\ X2))\wedge((v3_polynom7\ (k5_termord\ X0\ X1\ X2\ X3)\ X0\ X2)\wedge \\
& (m1_subset_1\ (k5_termord\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1 \\
& (k15_pre_poly\ X0)\ (u1_struct_0\ X2))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0)\Rightarrow(\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& X0))\wedge((v1_relat_2\ X1)\wedge((v4_relat_2\ X1)\wedge((v6_relat_2\ X1)\wedge((\\
& v8_relat_2\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& X0)\ (k15_pre_poly\ X0))))))))\Rightarrow(\forall X2.((\neg v2_struct_0\ X2)\wedge \\
& ((v13_algstr_0\ X2)\wedge((v3_rlvect_1\ X2)\wedge((v4_rlvect_1\ X2)\wedge(l2_algstr_0 \\
& X2))))\Rightarrow(\forall X3.((v1_funct_1\ X3)\wedge((v1_funct_2\ X3\ (k15_pre_poly \\
& X0)\ (u1_struct_0\ X2))\wedge((v1_polynom1\ X3\ (k15_pre_poly\ X0)\ X2)\wedge \\
& (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (\\
& u1_struct_0\ X2))))))\Rightarrow(k6_termord\ X0\ X1\ X2\ X3 = k6_polynom1\ X0\ X2 \\
& X3\ (k5_termord\ X0\ X1\ X2\ X3))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0\ X1)\wedge(l2_struct_0\ X1))\Rightarrow \\
& (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& X0)\ (u1_struct_0\ X1))))\Rightarrow(((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (k15_pre_poly \\
& X0)\ (u1_struct_0\ X1))\wedge(v4_polynom7\ X2\ X0\ X1))\Rightarrow((v1_funct_1\ X2)\wedge \\
& ((v1_funct_2\ X2\ (k15_pre_poly\ X0)\ (u1_struct_0\ X1))\wedge(v3_polynom7 \\
& X2\ X0\ X1))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(\neg v1_xboole_0\ X1)\Rightarrow(\forall X2.(m1_subset_1 \\
& X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v1_funct_2\ X2\ X0\ X1)\Rightarrow(\\
& v1_partfun1\ X2\ X0))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v4_relat_1\ X2\ X0)\wedge(v5_relat_1\ X2\ X1))
\end{aligned} \tag{18}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge(l2_struct_0 X1))\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\ & X0) (u1_struct_0 X1))))\Rightarrow(((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k15_pre_poly \\ & X0) (u1_struct_0 X1))\wedge(v3_polynom7 X2 X0 X1)))\Rightarrow((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 (k15_pre_poly X0) (u1_struct_0 X1))\wedge(v1_polynom1 \\ & X2 (k15_pre_poly X0) X1)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow((v2_struct_0 X0)\Rightarrow(v7_struct_0 X0)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_partfun1 X2 X0)\Rightarrow(v1_funct_2 X2 X0 X1)) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0)\Rightarrow(\forall X1.((v1_partfun1 X1 (k15_pre_poly \\ & X0))\wedge((v1_relat_2 X1)\wedge((v4_relat_2 X1)\wedge((v6_relat_2 X1)\wedge((\\ & v8_relat_2 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\ & X0) (k15_pre_poly X0))))))))))\Rightarrow(\forall X2.((\neg v7_struct_0 X2)\wedge \\ & ((v13_algstr_0 X2)\wedge((v3_rlvect_1 X2)\wedge((v4_rlvect_1 X2)\wedge(l2_algstr_0 \\ & X2))))))\Rightarrow(r2_funct_2 (k15_pre_poly X0) (u1_struct_0 X2) (k6_termord \\ & X0 X1 X2 (k7_polynom1 X0 X2)) (k7_polynom1 X0 X2))) \end{aligned}$$